

Attorney Docket No.: NORTE-500A  
Serial No.: 10/662,779



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant:	Kent E. Peterson	) Confirmation No.: 2186
Serial No.:	10/662,779	) Art Unit: 2817
Filing Date:	09/15/2003	) Examiner: Stephen E. Jones
For:	DISTRIBUTED INTERCONNECT	)
		)

**PETITION TO WITHDRAW HOLDING OF ABANDONMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir/Madam:

I hereby petition to withdraw the holding of abandonment in this case, on the basis that the notice that Applicant failed to timely file a proper reply was in error. Applicant's response to the Final Office Action dated September 22, 2005 was mailed to the PTO on October 11, 2005 (Exhibit 1) and the return postcard was stamped received on October 14, 2005 (Exhibit 2).

For the foregoing reason, Applicant respectfully requests that the Notice of Abandonment be withdrawn. Should the Examiner have questions regarding this matter he is invited to contact Applicant's representative at the number listed below.

Should any additional fee be required, please charge Account Number 19-4330.

Respectfully submitted,

Dated: *Apr 18, 2006*

By:



Bruce B. Brunda

Customer No. 007663

Registration No. 28,497

STETINA BRUNDA GARRED & BRUCKER

75 Enterprise, Suite 250

Aliso Viejo, CA 92656

(949) 855-1246

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ATTORNEY DOCKET NO: NORTE-500A  
TITLE: DISTRIBUTED INTERCONNECT



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on October 11, 2005

*Abby Christensen*  
(Signature)

Abby Christensen  
(Typed name of person signing certificate)

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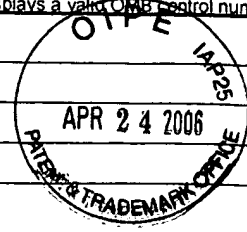
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## TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/662,779
Filing Date	09/15/2003
First Named Inventor	Kent E. Peterson
Art Unit	2817
Examiner Name	Stephen E. Jones
Attorney Docket Number	NORTE-500A



Total Number of Pages in This Submission

### ENCLOSURES (Check all that apply)

<input type="checkbox"/> Fee Transmittal Form	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> After Allowance Communication to TC
<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input checked="" type="checkbox"/> Amendment/Reply	<input type="checkbox"/> Petition	<input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)
<input checked="" type="checkbox"/> After Final	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Power of Attorney, Revocation	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
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<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s) _____	
<input type="checkbox"/> Reply to Missing Parts/Incomplete Application	<input type="checkbox"/> Landscape Table on CD	
<input type="checkbox"/> Reply to Missing Parts under 37 CFR 1.52 or 1.53		
<input type="checkbox"/> Remarks		

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	STETINA BRUNDA GARRED & BRUCKER		
Signature			
Printed name	Bruce B. Brunda		
Date	09/15/2005	Reg. No.	28,497

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Signature			
Typed or printed name	Abby Christensen	Date	10/11/05

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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(BBB/vm)

Date Mailed: October 11, 2005

Docket Number: NORTE-500A

Serial No.: 10/662,779

Filing Date: 09/15/2003

Title: DISTRIBUTED INTERCONNECT

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**FROM:**

LAW OFFICES

*Stetina Brunda Garred & Brucker*

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ALISO VIEJO, CALIFORNIA 92656

**TO:**

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P.O. Box 1450  
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**FIRST CLASS MAIL**

Application No.: 10/062,779  
Response to Office Action of September 22, 2005  
Attorney Docket: NORTE-500A



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants:	Kent E. Peterson	)	Confirmation No.	2186
		)		
Serial No.:	10/622,779	)	Art Unit:	2817
		)		
Filed:	September 15, 2003	)	Examiner:	Stephen E.
		)		Jones
For:	Distributed Interconnect	)		
		)		

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**RESPONSE TO OFFICE ACTION**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action of September 22, 2005, please amend the above-identified application as follows:

**In the Claims:**

1. (Previously Amended) A distributed interconnect between two separate substrates comprising:

a first substrate;

a second substrate separate from said first substrate;

a first conductive transmission element formed on said first substrate, said first conductive transmission element disposed between a first and second terminal, said first conductive element having an impedance characteristic that increases from said first terminal to said second terminal;

a second conductive transmission element formed on said second substrate, said second conductive transmission element disposed between a third and fourth terminal, said second conductive element having an impedance characteristic that increases from said third terminal to said fourth terminal, said first and second conductive transmission elements being positioned in parallel alignment with respect to each other; and

a plurality of conductive interconnect elements interconnecting said first and second transmission elements, said plurality of interconnect elements distributed along said first and second transmission elements and at least interconnecting said first terminal to said fourth terminal and interconnecting said second terminal to said third terminal; and

a first and second port, said first port connected to said first terminal and said second port connected to said third terminal.

2. (Original) The distributed interconnect according to claim 1, wherein said plurality of conductive interconnect elements includes at least one interconnect element evenly distributed between said first and second terminal and evenly distributed between said third and fourth terminal.

3. (Previously Amended) The distributed interconnect according to claim 1, wherein the impedance characteristic of said first and second conductive elements increases in linear manner.

4. (Original) The distributed interconnect according to claim 1, said plurality of conductive interconnect elements positioned normal to said first and second transmission elements and in parallel with each other.

5. (Original) The distributed interconnect according to claim 4, said plurality of conductive interconnect elements evenly spaced from each other.

6. (Previously Amended) The distributed interconnect according to claim 1, said first conductive transmission element comprising a first metal trace disposed along a first edge of said first substrate, and said second conductive transmission element comprising a second metal trace disposed along a second edge of said second substrate, said first edges and second edges laterally positioned next to each other forming a parallel gap therebetween.

7. (Original) The distributed interconnect according to claim 6, said plurality of conductive interconnect elements comprising equally spaced bondwires spanning the gap in a laterally parallel and equally space configuration.

8. (Previously Amended) The distributed interconnect according to claim 6, said first and second traces having a tapered shape having no steps.

9. (Cancel)

10. (Cancel)

11. (Cancel)

12. (Cancel)

13. (Cancel)

14. (Cancel)

15. (Cancel)

16. (Cancel)

17. (Cancel)

18. (Previously Amended) A method for interconnecting electrical components between two separate substrates which minimizes coupling inductance and increases bandwidth, the method comprising:

disposing a first conductive transmission element between a first and second terminal on a first substrate, the first conductive element having an impedance characteristic that increases from the first terminal to the second terminal,



disposing a second conductive transmission element between a third and fourth terminal on a second substrate, the second conductive element having an impedance characteristic that increases from said third terminal to the fourth terminal, and

positioning the first and second conductive elements in parallel alignment with respect to each other;

interconnecting a plurality of conductive interconnect elements between the first and second transmission elements by,

distributing the plurality of interconnect elements along the first and second transmission elements,

at least interconnecting the first terminal to the fourth terminal, and

at least interconnecting the second terminal to the third terminal; and  
electrically connecting a first port to the first terminal, and  
electrically connecting a second port to the third terminal.

19. (Previously Amended) The method according to claim 18, further comprising evenly distributing the plurality of conductive interconnect elements between the first and second terminal and between the third and fourth terminal.

20. (Previously Amended) The method according to claim 18, further comprising increasing the impedance characteristic of the first and second conductive elements in linear manner.

21. (Previously Amended) The method according to claim 18, further comprising positioning the plurality of conductive interconnect elements normal to the first and second transmission elements and in a lateral and parallel orientation with respect to each other.

22. (Previously Amended) The method according to claim 20, further comprising,  
forming the first conductive transmission element from a first metal trace,  
disposing the first metal trace on a first surface and along a first edge of the first substrate,  
forming the second conductive transmission element from a second metal trace,

disposing the second metal trace on a second surface and along a second edge of the second substrate, and

positioning the first edges and second edges laterally next to each other to form a parallel gap therebetween.

23. (Original) The method according to claim 22, further comprising utilizing equally spaced bondwires spanning the parallel gap as the plurality of conductive interconnect elements.

24. (Previously Amended) The method according to claim 22, further comprising providing first and second traces which have a tapered shape having no steps.

25. (Cancel)

26. (Cancel)

27. (Cancel)

28. (Cancel)

29. (Cancel)

30. (Cancel)

31. (Cancel)

32. (Cancel)

33. (Cancel)

34. (Previously Presented) A distributed interconnect between two separate substrates comprising:

a first conductive transmission element formed from a first tapered trace disposed on a first substrate, said first trace having at least a first and second terminal and having an impedance characteristic that linearly increases from said first terminal to said second terminal;

a second conductive transmission element formed from a second tapered trace disposed on a second substrate, said second trace having at least a third and fourth terminal and having an impedance characteristic that linearly increases from said third terminal to said fourth terminal;

a plurality of conductive interconnect elements interconnecting said first and second transmission elements-and at least interconnecting said first terminal to said fourth terminal and said second terminal to said third terminal; and

a first and second I/O port for outside electrical communication, said first port in communication with said second terminal and said second port in communication with said fourth terminal.

35. (Previously Presented) The distributed interconnect according to claim 34, wherein said plurality of conductive interconnect elements are evenly spaced and distributed between said first and second terminals and evenly spaced and distributed between said third and fourth terminals.

36. (currently amended) The distributed interconnect according to claim 34, each of said first and second tapered traces comprising a base side, a tapered side having no steps which opposes said base side at an inclined angle, a long short side normal to said base side which connects to both said base and a most inclined end of said tapered side, said long short side being positioned proximate and outside one of said first or third terminals, and another portion of said first and second trace opposing said long short side which interconnects said base side and a most declined ~~upwardly inclined~~ end of said tapered side, said portion positioned proximate and outside of said second or fourth terminals and having a width smaller ~~greater~~ than that of said long short side.

37. (previously presented) The distributed interconnect according to claim 36, said plurality of conductive interconnect elements positioned normal to said base sides of said first and second tapered traces and further in lateral and parallel orientation with respect to each other.

38. (currently amended) The distributed interconnect according to claim 36, said first and second ports comprising said portions of said first and second tapered traces which oppose said short sides and which interconnects the base side and the most upwardly inclined end of said tapered side, and of which are positioned proximate and outside said first or third ~~second or fourth~~ terminals.

39. (New) The distributed interconnect according to claim 36, said base side of said first trace disposed along a first edge of said first substrate, and said base side of said second

trace disposed along a second edge of said second substrate, said first and second edges laterally positioned next to each other forming a generally parallel gap therebetween.

40. (Previously Presented) The distributed interconnect according to claim 34, said plurality of conductive interconnect elements comprising equally spaced bondwires spanning the gap in a lateral and parallel orientation with respect to each other.

41. (Previously Presented) A method for interconnecting electrical components between two substrates which minimizes coupling inductance and increases bandwidth, the method comprising:

disposing a first conductive transmission element formed from a first tapered trace on a first substrate, the first trace having at least a first and second terminal and having an impedance characteristic that increases linearly from the first terminal to the second terminal;

disposing a second conductive transmission element formed from a second tapered trace on a second substrate, the second trace having at least a third and fourth terminal and having an impedance characteristic that increases linearly from the third terminal to the fourth terminal;

interconnecting a plurality of conductive interconnect elements between the first and second transmission elements by, evenly spacing and distributing the plurality of interconnect elements between the first and second terminals and between the third and fourth terminals, at least interconnecting the first terminal to the fourth terminal, and at least interconnecting the second terminal to the to the third terminal;

providing a first I/O port for outside electrical communication positioned proximate and outside the second terminal; and

providing a second I/O port for outside electrical communication positioned proximate and outside the fourth terminal.

42. (currently amended) The method according to claim 41, each of the first and second tapered traces comprising a base side, a tapered side having no steps which opposes the base side at an inclined angle, a long short side normal to the base side which connects to both of the base and tapered sidesides, the long short-side being positioned proximate and outside one of the first or third terminals, and another portion of said first and second trace

opposing the long ~~short~~-side which interconnects the base side and a most declined ~~upwardly inclined~~-end of said tapered side, the portion positioned proximate and outside the second or fourth terminals and having a width smaller ~~greater~~-than that of the long ~~short~~-side.

43. (Previously Presented) The method according to claim 42, further comprising positioning the plurality of conductive interconnect elements normal to the base sides of the first and second tapered traces and in a lateral and parallel orientation with respect to each other.

44. (Previously Presented) The method according to claim 42, further comprising,

disposing the base side of the first trace along a first edge of the first substrate;

disposing the base side of the second trace along a second edge of the second substrate; and

positioning the first and second edges laterally next to each other to form a parallel gap therebetween.

45. (Previously Presented) The method according to claim 22, further comprising utilizing equally spaced bondwires spanning the parallel gap as the plurality of conductive interconnect elements.

## **REMARKS**

### **SUMMARY OF OFFICE ACTION**

The Examiner indicated that the application contains Claims 9-17 and 25-33 which are drawn to an invention non-elected with traverse and that a complete reply to the final rejection must include cancellation of non-elected claims or other appropriate action. The Examiner also indicated that rejoinder of Claims 9-17 and 25-33 would present 112 problems.

Claims 36-39 and 42-44 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Further, the Examiner indicated that Claims 36 and 42 contain new matter.

Claims 1-8, 18-24, 34-35, 40, 41 and 45 are allowed.

### **APPLICANT'S RESPONSE**

By this Amendment, Applicant has amended Claims 36, 38 and 42 to address the 35 USC 112 rejection of Claims 36-39 and 42-44. In particular, Applicant has amended the claims to recite that the first and third terminals are proximate the long sides. Applicant respectfully submits that the basis for such amendment is found within the specification and that Claims 36-39 and 42-44 are now in condition for allowance.

By this Amendment, Applicant cancels Claims 9-17 and 25-33. Accordingly, all of the remaining claims are in condition for allowance.

### **CONCLUSION**

For the foregoing reasons, Applicant respectfully submits that Claims 1-8, 18-24, and 34-45 are in condition for allowance. An expedited Notice of Allowance is therefore respectfully requested. Should the Examiner have any suggestions for expediting allowance of the application, the Examiner is invited to contact Applicant's representative at the telephone number listed below.

Application No.: 10/002,779  
Response to Office Action of September 22, 2005  
Attorney Docket: NORTE-500A

If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

Date: September 15, 2004

By:



Bruce B. Brunda

Customer No.: 007663

Registration No. 28,497

STETINA BRUNDA GARRED & BRUCKER

75 Enterprise, Suite 250

Aliso Viejo, California 92656

Telephone: (949) 855-1246

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BBB/JCY/vm

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Date Mailed: October 11, 2005

Docket Number: NORTE-500A

Serial No.: 10/662,779

Filing Date: 09/15/2003

Title: DISTRIBUTED INTERCONNECT

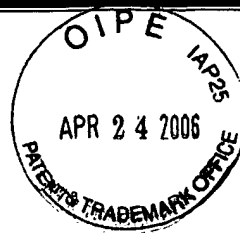
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TITLE: DISTRIBUTED INTERCONNECT



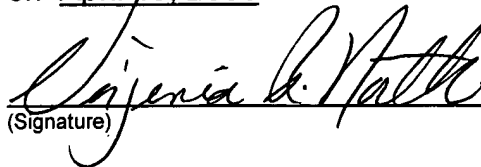
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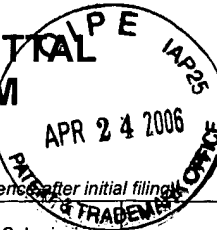
Virginia R. North

(Typed name of person signing certificate)

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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

Application Number	10/662,779
Filing Date	09/15/2003
First Named Inventor	Kent E. Peterson
Art Unit	2817
Examiner Name	Stephen E. Jones
Attorney Docket Number	NORTE-500A

**ENCLOSURES (Check all that apply)**

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|---|---|---|
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|---|---|---|

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm Name	STETINA BRUNDA GARRED & BRUCKER		
Signature			
Printed name	Bruce B. Brunda		
Date	Apr 18, 2006	Reg. No.	28,497

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Signature			
Typed or printed name	Virginia R. North	Date	4-19-06

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